

September 24, 2002

FIRE PREVENTION OFFICE
SEP 2 4 2002

Mr. Kelly Engineer All Star Inc. 1791 Pine Street Concord, CA 94520

HAYWARD FIRE DEPARTMENT

RE:

July 2001 Groundwater Monitoring Report

1220 West Tennyson Road, Hayward, California

ACC Project No. 01-6651-004.00

Dear Mr. Engineer:

ACC Environmental Consultants, Inc., (ACC) has enclosed two copies of the Groundwater Sampling and Monitoring Report. If you have any questions regarding this report or the findings of the work, please contact me at (510) 638-8400, extension 109.

On your behalf, a copy of this report has been submitted to the Hayward Fire Department for review.

Sincerely,

David R. DeMent, RG, REA II Environmental Division Manager

/trb:drd

Enclosures

Diphate



JULY 2001 GROUNDWATER MONITORING REPORT

September 24, 2002

1220 West Tennyson Road Hayward, California

> Prepared For: Mr. Kelly Engineer All Star Inc. 1791 Pine Street Concord, CA



JULY 2001 GROUNDWATER MONITORING REPORT

1220 West Tennyson Road Hayward, California

ACC Project No. 01-6651-004.00

Prepared for:

Mr. Kelly Engineer All Star Inc. 1791 Pine Street Concord, CA 94520

September 24, 2002

Prepared by:

Trevor Bausman Project Administrator

Reviewed by:

David R. DeMent, RG, REA II Environmental Division Manager

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JULY 2001 GROUNDWATER MONITORING REPORT 1220 West Tennyson Road Hayward, California

1.0 INTRODUCTION

This July 2001 Groundwater Sampling and Monitoring Report was prepared by ACC Environmental Consultants, Inc., (ACC) at the request of Kelly Engineer and All Star Inc., to describe work performed at 1220 West Tennyson Road, Hayward, California (Site). The project objectives were to purge and sample three groundwater monitoring wells and one observation well, calculate groundwater gradient and flow direction, and characterize concentrations of petroleum hydrocarbons in groundwater in the vicinity of four former underground storage tanks (USTs).

2.0 BACKGROUND

The subject site is located on the southwest corner of West Tennyson Road and Pompano Street, Hayward, California (Figure 1). The site is currently occupied by by an operating gasoline and automobile repair facility. The following information was obtained during file review at the City of Hayward Fire Department.

Environmental Geotechnical Consultants, Inc. removed one 6,000-gallon and three 4,000-gallon USTs from the site in October 1990. Four new USTs were subsequently installed at the site. One groundwater and eight soil samples were collected from the tank pit during removal of the USTs. Analysis of the soil samples revealed the presence of total petroleum hydrocarbons as gasoline (TPHg) at 4,300 parts per million (ppm), benzene at 29,000 parts per billion (ppb), toluene at 160,000 ppb, ethylbenzene at 68,000 ppb and total xylenes at 280,000 ppb. Analysis of the groundwater sample revealed the presence of TPHg at 26 ppm, benzene at 2,400 ppb, toluene at 1,800 ppb and total xylenes at 5,200 ppb.

Artesian Environmental Consultants (Artesian) performed a subsurface investigation at the Site in March 1992. Three soil borings were drilled at the Site and converted into groundwater monitoring wells (MW-1, MW-2 and MW-3). Analysis of seven soil samples collected from the borings revealed the presence of TPHg at 680 ppm, benzene at 8,100 ppb, toluene at 15,000 ppb, ethylbenzene at 11,000 ppm and total xylenes at 73,000 ppb. Analyses of soil samples collected from the tank pit revealed the presence of TPHg at 2,900 ppm, benzene at 12,000 ppm, toluene at 160,000 ppm, ethylbenzene at 35,000 ppb and total xylenes at 420,000 ppb. Analyses of groundwater samples collected from the groundwater monitoring wells revealed the presence of TPHg at 59,000 ppb, benzene at 13,000 ppb, toluene at 12,000 ppb, ethylbenzene at 1,600 ppb and total xylenes at 13,000 ppb.

The City of Hayward has requested additional site investigation and remediation at the Site.

3.0 GROUNDWATER SAMPLING AND MONITORING

ACC conducted groundwater sampling and monitoring on July 16, 2001. Work at the site included measuring depth to water, subjectively evaluating groundwater in the wells, purging and sampling the wells, and submitting the samples to a laboratory for analysis.

3.1 Groundwater Monitoring

Before groundwater sampling, the depth to the surface of the water table was measured from the top of the well casing using a Solinst water level meter. The water level measurements were recorded to the nearest 0.01 foot with respect to mean sea level (MSL). Worksheets of recorded groundwater monitoring data are included as Appendix 1. Information regarding well elevations and groundwater depths is summarized in Table 1.

TABLE 1 - GROUNDWATER DEPTH INFORMATION

Well No. :	Well Elevation* (above MSL)	Date Measured	Depth to Groundwater	Groundwater Elevation
MW-1	21.86	04/07/92	10.08	11.78
		04/11/01	10.54	11.32
		07/16/01	11.18	10.68
MW-2	21.56	04/07/92	9.49	12.07
		04/11/01	9.67	11.89
		07/16/01	10.36	11.20
MW-3	20.54	04/07/92	10.64	9.90
		04/11/01	11.40	9.14
		07/16/01	11.67	8.87

Notes:

All measurements in feet

*Well elevation measured to top of casing

3.2 Groundwater Gradient

The groundwater flow direction, as determined from monitoring well data obtained on July 16, 2001, is illustrated on Figure 3. The well elevations above mean seal level were reported by Artesian in its Subsurface Investigation Report dated April 1992. Based on groundwater elevation calculations, groundwater flow direction is toward the south at an average gradient of 0.026 foot/foot. Table 2 summarizes previous gradients and calculated flow directions.

TABLE 2 - GROUNDWATER GRADIENT AND FLOW DIRECTION

Date Monitored	Gradient (foot/foot)	Pic. Direction
04/07/92	0.025	south-southeast
04/11/01	0.031	south
07/16/01	0.026	south

3.3 Groundwater Sampling

Before groundwater sampling, each well was purged using a disposable polyethylene bailer. Groundwater samples were collected when temperature, pH, and conductivity of the water stabilized and a minimum of four well casing volumes of water had been removed. Following purging, each well was allowed to recharge before sampling. When recovery to 80 percent of the static water level was observed, a sample was collected for analysis. Groundwater was also monitored for dissolved oxygen (DO).

Wells were sampled using disposable polyethylene bailers attached to new rope for each well. From each monitoring well, approved, laboratory-supplied sample vials were filled to overflowing and sealed to eliminate trapped air in the vial. Once filled, sample vials were inverted and tapped to test for air bubbles. Sample containers were labeled with self adhesive, preprinted tags. The samples were stored in a prechilled, insulated container pending delivery to Chromalab, Inc. (Chromalab), a state-certified laboratory for analysis.

Water purged prior to sampling the monitoring wells was temporarily stored on site in Department of Transportation-approved 55-gallon drums pending laboratory analysis and proper disposal.

4.0 RESULTS OF GROUNDWATER SAMPLING

Groundwater samples from monitoring wells MW-1, MW-2, MW-3 and observation well OB-2 were collected and submitted to Chromalab for analysis of TPHg, BTEX, and MTBE by EPA Method 5030/8015M/8020. Analytical results from the groundwater samples are summarized in Table 3. A copy of the analytical results and chain of custody record for groundwater samples is included as Appendix 2.

TABLE 3 - GROUNDWATER SAMPLE ANALYTICAL RESULTS

= Well No*-	Date Sampled	FTPHg (µg/L)-	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)=	Total Xylenes (ug/15)	MTBE*	TBA*ε (μg/L)
MW-1	04/07/92	< 50	2.1	0.56	< 0.5	1.4	NA	NA
	04/11/01	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	NA
	07/16/01	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	NA
MW-2	04/07/92	2,100	450	200	45	360	NA	NA
	04/11/01	< 5,000	< 50	< 50	< 50	150	5,200	NA
	07/16/01	6,300	< 50	< 50	< 50	< 50	6,500	NA
MW-3	04/07/92	59,000	13,000	12,000	1,600	13,000	NA	NA
	04/11/01	4,800	< 5.0	5.1	320	<5	760	1,500
	07/16/01	4,300	< 10	< 10	100	60	2,400	NA

Notes: $\mu g/L = micrograms per liter (approximately equivalent to ppb)$

 $NA = Not \ analyzed$

5.0 DISCUSSION

This sampling event represents the third periodic groundwater monitoring event conducted since the wells were installed in March 1992 and the second consecutive quarterly groundwater monitoring event. The calculated groundwater flow direction and gradient were south at 0.026. These values are similar to the initial flow direction and gradient calculated by ACC in April 2001.

Water sample analytical results were similar to concentrations reported during the last sampling event. Concentrations of TPHg and BTEX were below reporting limits in wells MW-1 and MW-2. The TPHg reported in well MW-2 was essentially all MTBE and the presence of elevated MTBE caused the laboratory to raise the reporting limits. Varying concentrations of TPHg, BTEX, and MTBE were reported in well MW-3 located downgradient of the USTs. The concentration of MTBE increased from 760 ppb to 2,400 ppb in downgradient well MW-3.

6.0 CONCLUSIONS

Based on the results of groundwater sampling and monitoring performed at 1220 West Tennyson Road in July 2001, ACC concludes the following:

- Groundwater gradient and flow direction were calculated at 0.026 foot/foot to the south;;
- ACC groundwater sample analytical results were essentially unchanged with the exception of an increase in MTBE in downgradient well MW-3;

- ACC groundwater sample analytical results indicate that groundwater across the majority of the site are impacted by residual concentrations of weathered, residual petroleum hydrocarbons, and that a potential source of MTBE may be present; and
- With the exception of MTBE, groundwater impact is greatest in monitoring well MW-3, located immediately downgradient of the USTs and southern dispenser island.

7.0 RECOMMENDATIONS

Based on the conclusions of previous investigation and recent groundwater monitoring performed, ACC recommends:

- Instituting quarterly groundwater monitoring in wells MW-1, MW-2, and MW-3;
- Analyzing future water samples for TPHg, BTEX, and the five fuel oxygenates and two scavengers by EPA Method 8260; and
- Request a meeting with the Hayward Fire Department to discuss site conditions and the need for additional subsurface investigation.

The next monitoring event is scheduled for October 2001.

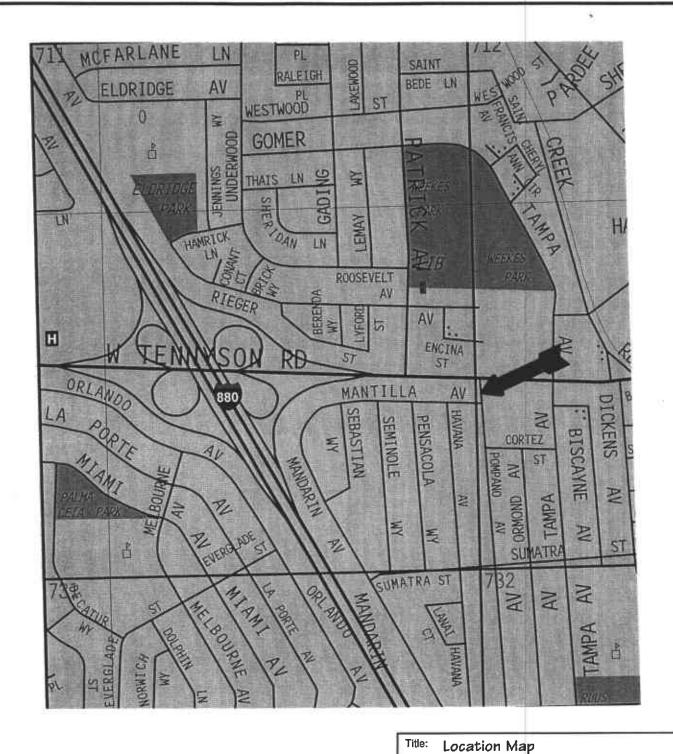
8.0 LIMITATIONS

The service performed by ACC has been conducted in a manner consistent with the levels of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area. No other warranty, expressed or implied, is made.

The conclusions presented in this report are professional opinions based on the indicated data described in this report and applicable regulations and guidelines currently in place. They are intended only for the purpose, site, and project indicated. Opinions and recommendations presented herein apply to site conditions existing at the time of our study.

ACC has included analytical results from a state-certified laboratory, which performs analyses according to procedures suggested by the U.S. Environmental Protection Agency and the State of California. ACC is not responsible for laboratory errors in procedure or result reporting.

FIGURES



SOURCE: Thomas Guide CD-ROM, 2002

1220 W. Tennyson Ave.
Hayward, California

Figure Number: 1 Scale: None

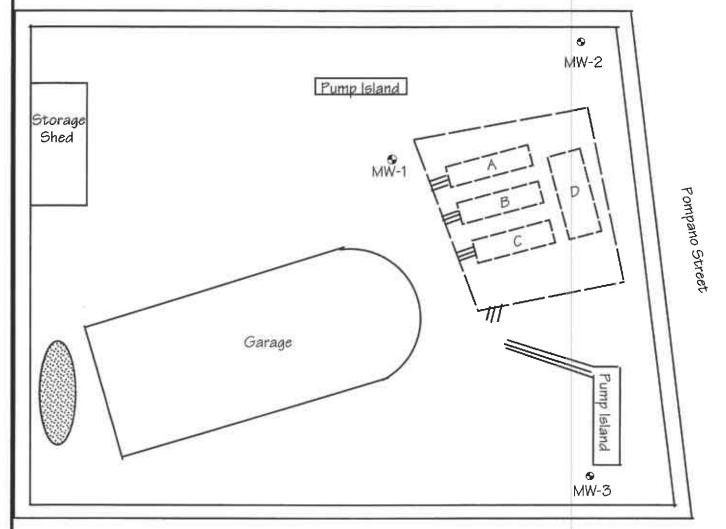
Project Number: 6551-004.00 Drawn By: EJG

A • C • C

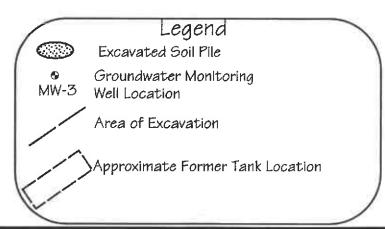
ENVIRONMENTAL
CONSULTANTS

7977 Capwell Drive, Suite 100
Oakland, California 94621
(510) 638-8400 Fate (510) 638-8404

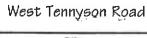
West Tennyson Road

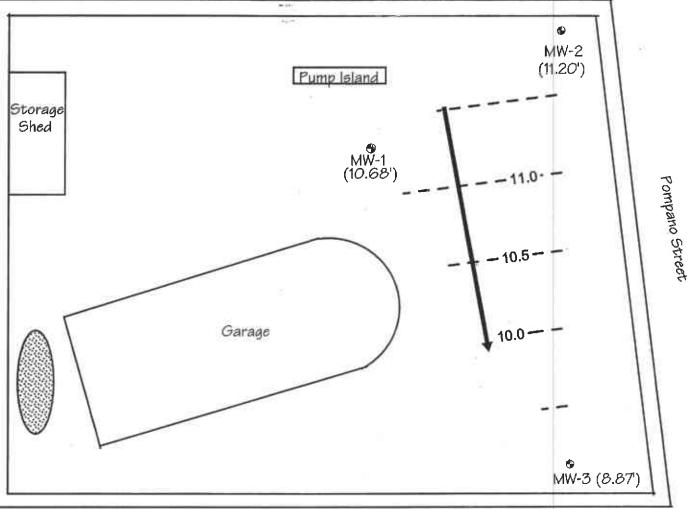


Mantilla Avenue

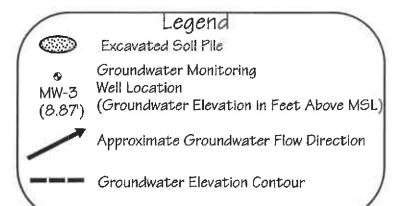


Title: Site Map 1220 W. Tennyson Hayward, Californ	
Figure Number: 2	Scale: 1" = 20'
Project Number: 6551-004.00	Drawn By: EJG
1. C. C	Date: 9/20/02
ENVIRONMENTAL CONSULTANTS	N W → E
7977 Capwell Drive, Suit e 100 Oakland, California 9-621 (510) 638-8400 Fax (510) 63 3-8404	s





Mantilla Avenue





APPENDICES

September 24, 2002

SEVERN TRINT LABORATORY

STL San Francisco 1220 Quarry Ln Pleasanton CA 94566

Tel.: (925) 484-1919 Fax: (925) 484-1096 www.stl-inc.com www.chromalab.com

CA DHS ELAP#:2496

ACC Environmental Consultants

7977 Capwell Drive, Suite 100 Oakland, CA 94621

Submission#: 2001-07-0293

Attn.:

Trevor Bausman

Project#: 6551-004.00

Project:

1220 W. Tennyson

Dear Mr. Bausman,

Attached is our report for your samples received on 07/17/2001 16:48 This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 08/31/2001 unless you have requested otherwise.

We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.

You can also contact me via email. My email address is: vvancil@chromalab.com

Sincerely,

Vincent Vancil Project Manager

Gas/BTEX Compounds by 8015M/8021

ACC Environmental Consultants

Attn.: Trevor Bausman

7977 Capwell Drive, Suite 100

Oakland, CA 94621

A 65 14

Phone: (510) 638-8400 Fax: (510) 638-8404

Project: 6551-004.00

1220 W. Tennyson

SEVERN TRENT EABORATORY

STL San Francisco 1220 Quarry Lane Pleasanton, CA 94566

Tel: (925) 484-1919 Fax: (925) 484-1096 www.stl-inc.com www.chromalab.com

CA DHS ELAP# 2496

Samples Reported

Sample Name	Date Sampled	Matrix	Lab#
MW-1	07/16/2001 14:30	Water	1
MW-3	07/16/2001 15:00	Water	2
MW-2	07/16/2001 15:00	Water	3

Gas/BTEX Compounds by 8015M/8021

ACC Environmental Consultants

Attn.: Trevor Bausman

7977 Capwell Drive, Suite 100

Oakland, CA 94621

Phone: (510) 638-8400 Fax: (510) 638-8404

Project: 6551-004.00

1220 W. Tennyson

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Tel: (925) 484-1919 Fax: (925) 484-1096 www.stl-inc.com www.chromalab.com

CA DHS ELAP# 2496

Prep(s): 5030 Test(s): 8016M
5030 8021B
······································
Sample ID: MW-1 Lab ID: 2001-07-0293 - 1
Sampled: 07/16/2001 14:30 Extracted: 7/19/2001 16:25
Sampled: 07/16/2001 14:30 Extracted: 7/19/2001 16:25
Matrix Water QC Batch#: 2001/07/19-01.03
~~~~~ <b>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</b>
Matrix Water QC Batch#: 2001/07/19-01.03

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	07/19/2001 16:25	
Benzene	ND	0.50	ug/L	1.00	07/19/2001 16:25	
Toluene	ND	0.50	ug/L	1.00	07/19/2001 16:25	
Ethyl benzene	ND	0.50	ug/L	1.00	07/19/2001 16:25	
Xylene(s)	ND	0.50	ug/L	1.00	07/19/2001 16:25	
MTBE	ND	5.0	ug/L	1.00	07/19/2001 16:25	
Surrogates(s)	i.					-
Trifluorotoluene	87.3	58-124	%	1.00	07/19/2001 16:25	
4-Bromofluorobenzene-FID	74.9	50-150	%	1.00	07/19/2001 16:25	

# Gas/BTEX Compounds by 8015M/8021

**ACC Environmental Consultants** 

Attn.: Trevor Bausman

7977 Capwell Drive, Suite 100

Oakland, CA 94621

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Project: 6551-004.00

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CA DHS ELAP# 2496

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	A10000019000019000000000000000000000000
5030 8021B	\$1.500 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1.000 \$1
	.auaauaaaaaaaaaaaaaaaaa
5030 8021B	
	/23/24/04/23/23/23/23/23/23/23/23/23/23/23/23/23/
	**************************************
Sample ID: MW-3 Lab ID: 2001-07-0293 - 2	.4.55.555.956.76.656.616.606.966.96
Sample ID: MW-3 Lab ID: 2001-07-0293 - 2	404004400444044444
	24009204000000000000000
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Sampled: 07/16/2001 15:00 Extracted: 7/20/2001 12:26	
Sampled: 07/16/2001 15:00 Extracted: 7/20/2001 12:26	0.000000000000000000000000
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	/010000-0000000000000000000000000000000
Matrix: Water OC Batch# 2001/07/20-01 03	
Matrix: Water QC Batch#: 2001/07/20-01 03	termentenangonenggannentenan.
	/01000040000999991090690991

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	4300	1000	ug/L	20.00	07/20/2001 12:26	9
Benzene	ND	10	ug/L		07/20/2001 12:26	
Toluene	ND	10	ug/L	20.00	07/20/2001 12:26	
Ethyl benzene	100	10	ug/L	20.00	07/20/2001 12:26	
Xylene(s)	60	10	ug/L	20.00	07/20/2001 12:26	
MTBE	2400	100	ug/L	20.00	07/20/2001 12:26	
Surrogates(s)						
Trifluorotoluene	110.1	58-124	%	20.00	07/20/2001 12:26	
4-Bromofluorobenzene-FID	93.5	50-150	%	20.00	07/20/2001 12:26	

# Gas/BTEX Compounds by 8015M/8021

**ACC Environmental Consultants** 

Attn.: Trevor Bausman

7977 Capwell Drive, Suite 100

Oakland, CA 94621

Phone: (510) 638-8400 Fax: (510) 638-8404

Project: 6551-004.00

1220 W. Tennyson

SEVERN TRENT LABORATORY

STL San Francisco 1220 Quarry Lane Pleasanton, CA 94566

Tel: (925) 484-1919 Fax: (925) 484-1096 www.stl-inc.com www.chromalab.com

CA DHS ELAP# 2496

	A
	35555
	/////
Prep(s): 5030 Test(s): 8015M	
Prep(s): 5030 Test(s): 8015M	
	/300001
	100000
5030 8021B	355555
	(00/00/24
	.0000
	CO.
	/95566 : -
Sample ID: MW-2 Lab ID: 2001-07-0293 - 3	
MANUAL THE SELECTION OF	399961
Sampled: 07/16/2001 15:00 Extracted: 7/19/2001 17:27	
	3000001
	.00000
Matrix: Water OC Batch# 2001/07/19-01 03	
Matrix: Water OC Batch# 2001/07/19-01 03	200000
	40000

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	6300	5000	ug/L	100.00	07/19/2001 17:27	g
Benzene	ND	50	ug/L	100.00	07/19/2001 17:27	
Toluene	ND	50	ug/L	100.00	07/19/2001 17:27	
Ethyl benzene	ND	50	ug/L	100.00	07/19/2001 17:27	
Xylene(s)	ND	50	ug/L	100.00	07/19/2001 17:27	
MTBE	6500	500	ug/L	100.00	07/19/2001 17:27	
Surrogates(s)						
Trifluorotoluene	115.6	58-124	%	100.00	07/19/2001 17:27	
4-Bromofluorobenzene-FID	100.0	50-150	%	100.00	07/19/2001 17:27	

# Gas/BTEX Compounds by 8015M/8021

**ACC Environmental Consultants** 

Attn.: Trevor Bausman

7977 Capwell Drive, Suite 100

Oakland, CA 94621

a) 👢

Phone: (510) 638-8400 Fax: (510) 638-8404

Project: 6551-004.00

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STL San Francisco 1220 Quarry Lane Pleasanton, CA 94566

Tel: (925) 484-1919 Fax: (925) 484-1096 www.stl-inc.com www.chromalab.com

CA DHS ELAP# 2496

Batch QC Report
Prep(s): 5030 Test(s): 8015M
Method Blank Water QC Batch # 2001/07/19-01.03
Method Blank Water QC Batch # 2001/07/19-01:03
MR: 2001/07/19-01 03-004 Date Extracted: 07/19/2001 12:24
MB: 2001/07/19-01 03-004 Date Extracted: 07/19/2001 12:24

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	07/19/2001 12:24	
Benzene	ND	0.5	ug/L	07/19/2001 12:24	
Toluene	ND	0.5	ug/L	07/19/2001 12:24	
Ethyl benzene	ND	0.5	ug/L	07/19/2001 12:24	
Xylene(s)	ND	0.5	ug/L	07/19/2001 12:24	•
MTBE	ND	5.0	ug/L	07/19/2001 12:24	
Surrogates(s)					
4-Bromofluorobenzene	112.0	50-150	%	07/19/2001 12:24	
4-Bromofluorobenzene-FID	100.0	50-150	%	07/19/2001 12:24	

# Gas/BTEX Compounds by 8015M/8021

**ACC Environmental Consultants** 

Attn.: Trevor Bausman

7977 Capwell Drive, Suite 100

Oakland, CA 94621

in At w

Phone: (510) 638-8400 Fax: (510) 638-8404

Project: 6551-004.00

1220 W. Tennyson

SEVERN TRENT LABORATORY

STL San Francisco 1220 Quarry Lane Pleasanton, CA 94566

Tel: (925) 484-1919 Fax: (925) 484-1096 www.stl-inc.com www.chromalab.com

CA DHS ELAP# 2496

	005-05-0-006-0
Batch QC Report	600000000000000000000000000000000000000
	territoria de la constanta de
	000000000000000000000000000000000000000
	2. MEET TO A BOSTON
Prep(s): 5030 Test(s)	: 8015M
Method Blank Water QC Batch # 2001/07/2	C 44 C 54 C 54 C 44 C 44 C 54 C 54 C 54
Method Blank Water QC Batch # 2001/07/2	
	KWAWATA WATER
	*************
	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
MB: 2001/07/20-01:03-003 Date Extracted: 07/20/200	
MB: 2001/07/20-01:03-003 Date Extracted: 07/20/200	12 112-015
NID ZUGUVITZUTU UJTUG	
	*************

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	07/20/2001 08:05	
Benzene	ND	0.5	ug/L	07/20/2001 08:05	
Toluene	ND	0.5	ug/L	07/20/2001 08:05	
Ethyl benzene	ND	0.5	ug/L	07/20/2001 08:05	
Xylene(s)	ND	0.5	ug/L	07/20/2001 08:05	
MTBE	ND	5.0	ug/L	07/20/2001 08:05	
Surrogates(s)					
Trifluorotoluene	103.7	58-124	%	07/20/2001 08:05	
4-Bromofluorobenzene-FID	89.8	50-150	%	07/20/2001 08:05	

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CA DHS ELAP# 2496

400000000000000000000000000000000000000	**************************************	
	Batch QC Report	
	CHARLES TO THE PARTY OF THE PAR	
Prep(s): 5030		Test(s): 8021B
raepta), oudu		16303), 0021D
Laboratory Control Spike	Water	QC Batch # 2001/07/19-01.03
LCS 2001/07/19-01:03-005	Extracted: 07/19/2001	Analyzed: 07/19/2001 12:55
LCSD 2001/07/19-01-03-006	Eutranted: 07/10/2001	Analyzed: 07/19/2001 13:26
LCSD 2001/07/19-01:03-006	Extracted: 07/19/2001	Alialyzau, ultibizuul 15.20

Compound	Conc.	Conc. ug/L		Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	104	103	100.0	104.0	103.0	1.0	77-123	20		
Toluene	100	100	100.0	100.0	100.0	0.0	78-122	20		
Ethyl benzene	102	102	100.0	102.0	102.0	0.0	70-130	20		
Xylene(s)	300	303	300	100.0	101.0	1.0	75-125	20		
Surrogates(s)	ŀ			<b>.</b>						
Trifluorotoluene	531	515	500	106.2	103.0		58-124			

# Gas/BTEX Compounds by 8015M/8021

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CA DHS ELAP# 2496

Batch QC Report           Prep(s): 5030         Test(s): 8015l	3000
( - ob/(s) 5555	
Laboratory Control Spike Water QC Batch # 2001/07/19-01.0	
LCS 2001/07/19-01.03-007 Extracted: 07/19/2001 Analyzed: 07/19/2001.13:5 LCSD 2001/07/19-01.03-008 Extracted: 07/19/2001 Analyzed: 07/19/2001.14:2	

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD Ctrl.Limits %		Flags		
<b>-</b>	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Gasoline	512	517	500	102.4	103.4	1.0	75-125	20		
Surrogates(s) 4-Bromofluorobenzene-FID	465	472	500	93.0	94.4		50-150			

# Gas/BTEX Compounds by 8015M/8021

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7977 Capwell Drive, Suite 100

Oakland, CA 94621

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Phone: (510) 638-8400 Fax: (510) 638-8404

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STL San Francisco 1220 Quarry Lane Pleasanton, CA 94566

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CA DHS ELAP# 2496

Batch QC Report	
T : FOOR	Test(s): 8021B
Prep(s): 5030	lesita) onvito
Laboratory Control Spike Water QC Bate	h#2001/07/20-01.03
LCS 2001/07/20-01 03-004 Extracted: 07/20/2001 Analy.	zed: 07/20/2001 06:35
200 200 110/120-01.00-004 Extracted 01/20/2001 10/004	
1000 00010700 01 00 000 F-A 07/00/0001 Apple	zed: 07/20/2001 09:06
LCSD 2001/07/20-01:03-005 Extracted: 07/20/2001 Analy	CGT: OTITOISTOOT OB DO

Compound	Conc.	Conc. ug/L		Recovery		RPD Ctrl.Limits %			Flags		
	LC\$	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD	
Benzene	92.8	92.5	100.0	92.8	92.5	0.3	77-123	20			
Toluene	88.8	88.9	100.0	88.8	88.9	0.1	78-122	20			
Ethyl benzene	90.7	92.7	100.0	90.7	92.7	2.2	70-130	20			
Xylene(s)	267	270	300	89.0	90.0	1.1	75-125	20			
Surrogates(s)											
Trifluorotoluene	453	456	500	90.6	91.2		58-124				

Gas/BTEX Compounds by 8015M/8021

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7977 Capwell Drive, Suite 100

Oakland, CA 94621

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Project: 6551-004.00

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CA DHS ELAP# 2496

***************************************		
	Batch QC Report	
######################################	Dawn wo nepul	
Prep(s): 5030		Test(s): 8015M
		•
Laboratory Control Spike	Water	QC Batch # 2001/07/20-01.03
	F 1 1 1 07/05/0504	1 - 1 4 07/00/00/4 00:07
LCS 2001/07/20-01.03-006	Extracted: 07/20/2001	Analyzed: 07/20/2001 09:37
LCSD 2001/07/20-01:03-007	Extracted: 07/20/2001	Analyzed: 07/20/2001 10:07
LCOD ZGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG	Exageiea vilizoizavi	Analyzeou orizorzeou no or

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	RPD Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Gasoline	447	468	500	89.4	93.6	4.6	75-125	20		
Surrogates(s) 4-Bromofluorobenzene-FID	463	471	500	92.6	94.2		50-150			

4

Submission #: 2001-07-0293

Gas/BTEX Compounds by 8015M/8021

**ACC Environmental Consultants** 

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7977 Capwell Drive, Suite 100

Oakland, CA 94621

Phone: (510) 638-8400 Fax: (510) 638-8404

Project: 6551-004.00

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Tel: (925) 484-1919 Fax: (925) 484-1096 www.stl-inc.com www.chromalab.com

CA DHS ELAP# 2496

# Legend and Notes

Received: 07/17/2001 16:48

#### Result Flag

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Hydrocarbon reported in the gasoline range does not match our gasoline standard.

1220 Quarry Lane • Pleasanton, California 94566-4756 510/484-1919 • Facsimile 510/484-1096

Chain of Custody,

			100110	40041
<b>Environmental</b>	Services	(SDB)	IDOHS:	1094
C(IAITALITIES HOL	20111000	\~~~,	<b>,</b> —	

CHROMALAB, INC.

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PROJ. MGR . COMPANY . ADDRESS .	ACC 7977	ENVIRO CAPWEL LAND, CA	L DRIV	AL E		./	(5030.8015)	0, 8015)	10MATICS 8020)	PURGEABLE HALOCARBONS (EPA 601, 8010)		LS, ACIDS 8270, 525)	GREASE F, E+F)			A 418.1)		Cr, Pb, Zn, Ní	\$ (17)	OLLUTANT		7				NUMBER OF CONTAINERS
SAMPLERS (SIG	Rule	DATE	(510) (5	10) 638	HONE NO.) 00 XI13 AX NO.) -8404 PRESERV	TPH - Gasoline (EPA 5030, 8015)	TPH - Gasoline (5030 8015)	TPH - Big (175) TEM - (EPA 3510/3550, 8015)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	PURGEABLE HA (EPA 601, 8010)	VOLATILE ORGANICS (EPA 624, 8240, 524.2)	BASE/NEUTRALS, ACIDS (EPA 625/627, 8270, 525)	TOTAL OIL & CREASE (EPA 5520, B+F, E+F)	PCB (EPA 608, 8080)	PESTICIDES (EPA 608, 8080)	TOTAL RECOVERABLE HYDROCARBONS (EPA		LUFT METALS: Cd, Cr; Pb,	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	TOTAL LEAD	EXTRACTION (TCLP, STLC)				W NUMBER OF
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